

Abrines, David

From: Robles, Sadira
Sent: Thursday, March 05, 2015 11:30 AM
To: Abrines, David
Cc: Everett, Adolph
Subject: FW: NJDEP has granted the Rahway Arch Project a Waiver from flood hazard rules
Attachments: Rahway Arch Permit Revision 2.pdf

FYI

Sadira J. Robles

Remedial Project Manager
U.S. Environmental Protection Agency
Clean Air & Sustainability Division, HWPB, R2
290 Broadway, 22nd Fl.
New York, New York 10007-1866
Office: 1-212-637-4318

From: Andrew Voros [mailto:asvoros@gmail.com]
Sent: Tuesday, February 25, 2014 4:12 PM
To: Flax, Phil; Robles, Sadira; Everett, Adolph
Subject: NJDEP has granted the Rahway Arch Project a Waiver from flood hazard rules

NJDEP has granted a waiver from Flood Hazard Area Control Act Rules to operate a recycling facility in a flood zone, and to place hazardous substances in one as well.

Two permits are outstanding, but are pretty much pro forma, if there is anything that can be done, it needs to happen soon.

Andrew
908-255-6198

--

Andrew S. Voros
asvoros@gmail.com

Everett, Adolph

From: Mugdan, Walter
Sent: Wednesday, February 26, 2014 7:17 AM
To: Enck, Judith
Cc: Plevin, Lisa;Filippelli, John;Iglesias, Ariel;Everett, Adolph;LaPosta, Dore;Eng, Ken;Saghafi, Farnaz;Flax, Phil;LaPadula, John
Subject: Fw: Soil Safe
Attachments: Rahway Arch Permit Revision 2.pdf

Judith,

CASD, DECA and ERRD have discussed the documents sent us by the person who authored the letter with the assertion that Region 2 "reviewed and approved" the SoilSafe process. CASD will take the lead, working with the other divisions, to draft the letter.

Walter

From: Debbie Mans <debbie@nynjbaykeeper.org>
Sent: Tuesday, February 25, 2014 9:22:08 PM
To: Enck, Judith; Plevin, Lisa; Flax, Phil; Andrew Voros; Filippelli, John; Bellow, Bonnie; Matthews, Joan; Mugdan, Walter; Ritz, Phillip; Knutson, Lingard; Elizabeth Ruebman
Subject: Re: Soil Safe

Dear EPA

I just wanted to provide you with a brief update on the Soil Safe project. Yesterday, NJDEP granted a waiver to Soil Safe under the state flood rule that would allow the applicant to pile hazardous material in a floodplain. The revised permit is attached. The applicant still needs to obtain an air permit and Class B Recycling permit.

Also, the NY Times ran the following article in today's paper about the proposal:

http://www.nytimes.com/2014/02/25/nyregion/in-plan-to-dump-contaminated-soil-classic-new-jersey-politics-emerge.html?hpw&rref=nyregion&_r=0

In reviewing my notes from my meeting, EPA indicated that it would consider sending a letter to NJDEP to clarify that it had not approved of Soil Safe's "stabilization" process. Was an action taken on this?

Thanks, Debbie

Debbie Mans, Executive Director & Baykeeper
NY/NJ Baykeeper
732-888-9870 x2
debbie@nynjbaykeeper.org

On Wed, Jan 29, 2014 at 10:36 AM, Debbie Mans <debbie@nynjbaykeeper.org> wrote:

Regional Administrator Enck, Lisa, the Phils, John, Bonnie, Walter, Joan and Lingard:

Thank you again for meeting with us yesterday. We really appreciate your time. I know Andrew has already followed-up with Phil with some documents.

I wanted to share with you a post we were able to get on the Huffington Post on the issue (I did not realize at the time we met yesterday it had gone up):

http://www.huffingtonpost.com/debbie-mans/how-chris-christies-contagious-political-culture-spreads_b_4680677.html

Thanks, Debbie

Deborah A. Mans, Baykeeper & Executive Director

NY/NJ Baykeeper

52 W. Front Street

Keyport, NJ 07735

732.888.9870 ext. 2

732.888.9873 fax

Website: www.nynjbaykeeper.org

Follow us at:



Protecting, preserving, and restoring the Hudson-Raritan Estuary since 1989.



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF DREDGING AND SEDIMENT TECHNOLOGY
P.O. BOX 420
MAIL CODE #401-04P
TRENTON, NEW JERSEY 08625
(609) 633-3801

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

February 24, 2014

Ms. Pamela J. Pellegrini, P.E., P.P., CME
Director Special Projects
J. Timothy Kernan, Inc.
Kingsway Commons
Suite 100
935 Kings Highway
Thorofare, NJ 08086

RE: **REVISED** – Coastal General Permit #15, Freshwater Wetlands General Permit #4 and #11, Flood Hazard Area Verification and Flood Hazard Area Individual Permit
NJDEP File No: 1201-03-0003.3 CAF 120002, FWW120003, FWW120002, FHA 120001, FHA 1200002
Applicant: Rahway Arch Properties, LLC
Project: Rahway Arch Properties – Site Remediation
Borough of Carteret, Middlesex County
Block: 602; 603; 705, Lots: 1&8, 1; 17 and 18

Dear Ms. Pellegrini:

The Office of Dredging and Sediment Technology acting under the provisions of the Freshwater Wetlands Protection Act (N.J.S.A. 13:9B), Flood Hazard Area Control Act (N.J.S.A. 58:16A) and Waterfront Development Law (NJSA 12:5-3) has determined to modify the existing permit issued May 24, 2013, as previously modified on November 13, 2013.

Please note that the permit has been revised to reflect the proper coastal permit nomenclature for the Coastal General Permit #15 for the investigation, cleanup, removal or remediation of hazardous substances.

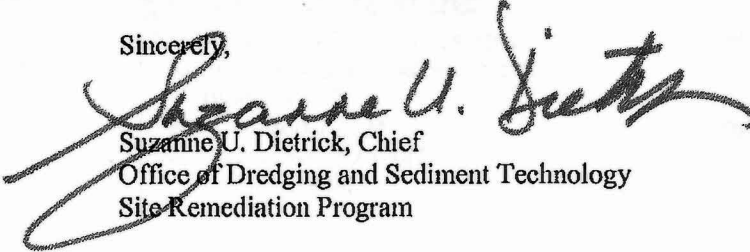
This permit includes a hardship exception from the requirements of N.J.A.C. 7:13-11.17 to allow for the placement of material to create a temporary Class B recycling facility and for the implementation of the LSRP-approved RAWP dated July 16, 2013, as amended on August 15, 2013, and as clarified in the applicant's August 23, 2013 letter. Accordingly, Condition #37 in the original permit issued May 24, 2013 (as previously modified on November 13, 2013) has been removed from the permit.

All other conditions of the permit remain in full force and effect.

In order to promote cooperation in the management of our natural resources, a copy of this decision shall be shared with appropriate local and federal agencies.

If you should have any questions regarding this decision, please contact me at (609) 292-8838 or by email at suzanne.dietrick@dep.state.nj.us.

Sincerely,



Suzanne U. Dietrick, Chief
Office of Dredging and Sediment Technology
Site Remediation Program

c: Borough of Carteret, Municipal Clerk
Borough of Carteret, Construction Official
Jodi McDonald, NY District Army Corps of Engineers, Regulatory Branch
Anthony Fontana, DSHW
Ken Kloo, SRP

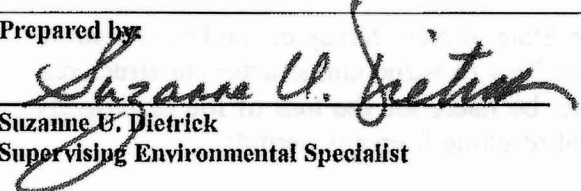
e-copy: Bureau of Coastal and Land Use Enforcement



STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF DREDGING AND SEDIMENT TECHNOLOGY
P.O. Box 420, Mail Code #401-04P
Trenton, New Jersey 08625-0420



PERMIT

In accordance with the laws and regulations of the State of New Jersey, the Department of Environmental Protection hereby grants this permit to perform the activities described below. This permit is revocable with due cause and is subject to the limitations, terms and conditions listed below and on the attached pages. For the purpose of this document, "permit" means "approval, certification, registration, authorization, waiver, etc." Violation of any term, condition or limitation of this permit is a violation of the implementing rules and may subject the permittee to enforcement action.			Approval Date: May 24, 2013 (modified February 24, 2014)				
			Expiration Date: May 23, 2018				
Permit Number(s): 1201-03-0003.3 CAF 120002 FWW120003, FWW120002, FHA 120001, FHA120002	Type of Approval(s): Coastal General Permit #15 Freshwater Wetlands General Permit #4 and #11 Flood Hazard Area Verification Flood Hazard Area Individual Permit	Enabling Statute(s) NJSA 13:9B FWW NJSA 58:16A FHA NJSA 12:5-3 WFD NJSA 58:10A-1 POLLUTION					
Applicant (Hereafter Permittee): Rahway Arch Properties, LLC 7 Nottingham Drive Florham Park, NJ		Site Location: Rahway Arch Properties – Site Remediation Salt Meadow Road Borough of Carteret, Middlesex County Block: 602; 603; 705, Lots: 1&8, 1; 17 and 18.					
Description of Authorized Activities: The remediation of six impoundments and their surrounding berms and the installation of a stormwater management system on the site pursuant to the Remedial Action Workplan submitted by the Licensed Site Remediation Professional on November 27, 2012. The remediation of the site will temporary disturb approximately 25.01 acres (1,087,518 square feet) of freshwater wetlands transition area to remediate the site and the permanent disturbance of 0.04 acres (1538.1 square feet) of freshwater wetlands transition area for the construction of stormwater outfalls. The remediation of the site will temporarily disturb 3.29 acres of riparian buffer for which on-site mitigation is required by the permit. This permit includes a hardship exception from the requirements of N.J.A.C. 7:13-11.17 to allow for the placement of material to create a temporary Class B recycling facility and for the implementation of the LSRP-approved RAWP dated July 16, 2013, as amended on August 15, 2013, and as clarified in the applicant's August 23, 2013 letter.							
Prepared by  Suzanne U. Dietrick Supervising Environmental Specialist		Received and/or Recorded by County Clerk					
		Date 2/24/14					
THIS PERMIT IS NOT EFFECTIVE AND NO CONSTRUCTION APPROVED BY THIS PERMIT, OR OTHER REGULATED ACTIVITY, MAY BE UNDERTAKEN UNTIL THE APPLICANT HAS SATISFIED ALL PRE-CONSTRUCTION CONDITIONS AS SET FORTH HEREIN.							
This permit is not valid unless authorizing signature appears on the last page.							

CONDITIONS APPLICABLE TO ALL LAND USE PERMITS:

1. In accordance with the applicable regulations, any person who is aggrieved by this decision or any of the conditions of this approval may request a hearing within 30 days after notice of the decision is published in the DEP Bulletin. This request must include a completed copy of the Administrative Hearing Request Checklist. The DEP Bulletin is available through the Department's website at <http://www.nj.gov/dep/bulletin> and the Checklist is available through the Division's website at <http://www.nj.gov/dep/landuse/forms/lurpaahr.pdf>. In addition to your hearing request, you may file a request with the Office of Dispute Resolution to engage in alternative dispute resolution. Please see the website www.nj.gov/dep/odr for more information about this process;
2. The permittee, its contractors and subcontractors shall comply with all conditions of this permit, supporting documents and approved drawings; and
 - i. Plans and specification in the application and conditions imposed by this permit shall remain in full force and effect so long as the proposed development or any portion thereof is in existence, unless modified by the Department in writing;
 - ii. If this permit contains a condition that must be satisfied prior to the commencement of construction, the permittee must comply with such condition(s) within the time required by the permit or, if no time specific requirement is imposed, then within six months of the effective date of the permit, or provide evidence satisfactory to the Department that such condition(s) cannot be satisfied; and
 - iii. Any noncompliance with this permit constitutes a violation, and is grounds for enforcement action, as well as suspension and/or termination of the permit; This approval does not in any way affect the right of the State to seek and collect monetary penalties or to take other enforcement action, should it be determined that a violation has occurred onsite;
3. It shall not be a defense for this permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit;
4. The permittee shall take all reasonable steps to prevent, minimize or correct any adverse impact on the environment resulting from activities conducted pursuant to the permit, or from noncompliance with the permit;
5. The issuance of this permit shall in no way expose the State of New Jersey or the Department to liability for the sufficiency or correctness of the design of any construction, structure or structures. Neither the State nor the Department shall, in any way, be liable for the loss of life or property which may occur by virtue of the activity of development resulting from any permit;
6. The permittee shall immediately inform the Department of any unanticipated adverse effects on the environment not described in the application or in the conditions of this permit. The Department may, upon discovery of such unanticipated adverse effects, and upon the failure of the permittee to submit a report thereon, notify the permittee of its intent to suspend the permit;
7. This permit can be modified, suspended or terminated for cause. The filing of a request to modify an issued permit by the permittee, or a notification of planned changes or anticipated noncompliance does not stay any condition of this permit;

8. This permit does not convey any property rights of any sort, or any exclusive privilege;
9. A copy of the permit and other authorizing documents including all approved plans and drawings shall be maintained at the authorized site at all times and made available to Department representatives or their designated agents immediately upon request.
 - i. The permittee shall also furnish to the Department within a reasonable time any information that the Department requests to determine compliance with this permit or to determine whether cause exists for suspension or termination of this permit; and
 - ii. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by the permit;
10. The permittee shall allow an authorized representative of the Department, upon notification under current rule and upon the presentation of credentials, to:
 - i. Enter upon the permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of this permit;
 - ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit; and
 - iii. Inspect at reasonable times any facilities, equipment, practices or operations regulated or required under the permit. Failure to allow reasonable access under this section shall be considered a violation of this chapter and subject the permittee to enforcement action;
 - iv. Sample or monitor at reasonable times for the purposes of assuring compliance with applicable rules;
11. No change in plans or specifications upon which this permit is issued shall be made except with the prior written permission of the Department;
12. The permittee shall provide reports to the Department as follows:
 - i. Monitoring results shall be reported at the intervals specified elsewhere in this permit;
 - ii. The permittee shall immediately report to the Department by telephone at (877) 927-6337 any noncompliance that may endanger health or the environment. In addition, the permittee shall report all noncompliance to Bureau of Coastal and Land Use Compliance and Enforcement, 401 E. State Street, 4th Floor, P.O. Box 422, Mail Code: 401-04C, Trenton, NJ 08625, in writing within five business days of the time the permittee becomes aware of the noncompliance. The written notice shall include: a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and, if the noncompliance has not been corrected, the anticipated length of time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance. Such notice shall not, however, serve as a defense to enforcement action if the project is found to be in violation of this chapter;
 - iii. Where the permittee becomes aware that it failed to submit any relevant facts in an application, or submitted incorrect information in an application or in any report to the Department, it shall promptly submit such facts or information;
13. Development which requires soil disturbance, the creation of drainage structures, or changes in natural contours shall conduct operations in accordance with the latest revised version of

"Standards for Soil Erosion Sediment Control in New Jersey," promulgated by the New Jersey State Soil Conservation Committee, pursuant to the Soil Erosion and Sediment Control Act of 1975, N.J.S.A. 4:24-42 et seq. and N.J.A.C. 2:90-1.3 through 1.14. and must obtain any required approvals from the local Soil Conservation District;

14. If any condition of this permit is determined to be legally unenforceable, modifications and additional conditions may be imposed by the Department as necessary to protect the public interest;
15. This permit is not transferable to any person unless the transfer is approved by the Department;
16. The permittee must obtain any and all other Federal, State and/or Local approvals. Authorization to undertake a regulated activity under these rules does not indicate that the activity also meets the requirements of any other rule, plan or ordinance. It is the applicant's responsibility to obtain all necessary approvals for a proposed project;
17. While the regulated activities are being undertaken, neither the permittee nor its agents shall cause or permit any unreasonable interference with the free flow of a regulated feature by placing or dumping any materials, equipment, debris or structures within or adjacent to the regulated area. Upon completion or abandonment of the work, the permittee and/or its agents shall remove and dispose of in a lawful manner all excess materials, debris, equipment, silt fences and other temporary soil erosion and sediment control devices from all regulated areas. Only clean non-toxic fill shall be used where necessary;
18. All excavated material and dredge material shall be disposed of in a lawful manner. (For example, it should be placed outside of any flood hazard area, riparian zone, regulated water, freshwater/coastal wetlands and adjacent transition area, and in such a way as to not interfere with the positive drainage of the receiving area);
19. If this document includes a Coastal Permit or a Flood Hazard Verification then, this document shall be recorded in its entirety in the office of the County Clerk or the Registrar of Deeds and Mortgages for each county where this project is located. Verified notice of this action shall be forwarded to the Department immediately thereafter.

APPROVED PLANS

20. The approved plans are entitled "Land Use Permitting Plans for Rahway Arch Properties- Site Remediation, Blocks: 602; 603; 705, Lots: 1&8, 1; 17 and 18, Borough of Carteret, County of Middlesex, New Jersey" dated May 16, 2013, and prepared by Pamela Pellegrini, P.E., P.P. CME of Kernan Consulting Engineers. The approved plans consist of thirty-three sheets
21. The approved plans are entitled "Wetlands Transition Area Disturbance Plan" dated May 16, 2013, and prepared by Pamela Pellegrini, P.E., P.P. CME of Kernan Consulting Engineers. The approved plan consists of one sheet.

22. The approved plans are entitled "Riparian Zone Disturbance Plan" dated May 16, 2013, and prepared by Pamela Pellegrini, P.E., P.P. CME of Kernan Consulting Engineers. The approved plans consist of two sheets.
23. The approved plans are entitled "Riparian Zone Enhancement Plan" dated May 16, 2013, and prepared by Pamela Pellegrini, P.E., P.P. CME of Kernan Consulting Engineers. The approved plans consist of two sheets.

CONDITIONS APPLICABLE TO FRESHWATER WETLAND GENERAL PERMIT #4 and #11:

24. No work as authorized by this permit and as shown on the approved plans may occur between April 1st and August 15th of any given year in order to prevent adverse impacts to the following State Threatened Species:
- Yellow-crowned night heron
 - Black-crowned night heron
 - Cattle egret
25. The total amount of temporary disturbance associated with this authorization shall not exceed 25.01 acres (1,087,518 square feet) of freshwater wetlands transition area under the Freshwater Wetlands General Permit #4 for remediation of the site. The total amount of permanent disturbance associated with this authorization shall not exceed 0.04 acres (1538.1 square feet) of freshwater wetlands transition area under the Freshwater Wetlands General Permit #11 for the construction of stormwater outfalls. Any additional disturbance of freshwater wetlands, State open waters and/or transition areas besides that shown on the approved plans shall be considered a violation of the Freshwater Wetlands Protection Act rules unless the activity is exempt or a permit is obtained from the Department prior to the start of the proposed disturbance.
26. The permittee shall comply with the Remedial Action Workplan (RAWP) dated November 27, 2012, revised July 16, 2013, and supplemented by the RAWP addendum dated August 15, 2013 and a PAH clarification letter dated August 23, 2013. The LSRP for the identified site in this permit is Alfred Free, EastStar Environmental Group, Inc., License # 575600. Any modification or changes to the construction activities authorized by this permit and/or the approved plans shall be approved in advance in writing by the Department.
27. Upon completion of the remediation of the site, the freshwater wetlands transition areas shall be planted with indigenous grasses as specified in the approved Soil Erosion and Sediment Control Notes and Details" dated May 16, 2013 (Sheet 16 of 17).
28. The permittee will be responsible for the installation of a sediment barrier around all disturbed soils, which is sufficient to prevent the sedimentation of the remaining wetlands and transition area.

29. Any pipes placed through wetlands, transition areas, or State open water must be properly sealed so as to prevent leaking or infiltration. Pipes and backfilled materials must be placed entirely beneath the pre-existing ground elevation.
30. The excavation within the wetlands and transition area must be backfilled with the original soil material or suitable material to within 18 inches of the surface. The upper 18 inches must be backfilled with the original topsoil material to the preexisting elevation and replanted with indigenous species.
31. The applicant shall be responsible for ensuring that the back-filling activities do not interfere with the natural hydraulic characteristics of the wetland, such as flow characteristics of groundwater on the site.
32. The permittee shall obtain all necessary consent from affected off site and easement property owners. No work is to occur without proper permissions.
33. The permittee shall submit written notification to the Bureau of Coastal and Land Use Compliance and Enforcement, NJDEP, P.O. BOX 422, East State Street, Trenton, NJ 08625-0422. At least seven days prior to the commencement of site preparation or of regulated activities, whichever comes first. The notification shall contain proof of recording of a conservation restriction or easement, if one was required as part of the permit.
34. If the permittee wishes to continue an activity covered by the permit after the expiration date of the permit, the permittee must apply for and obtain a permit extension or a new permit, prior to the permit's expiration. If the term of the authorization exceeds the expiration date with the general permit issued by rule, and the permit upon which the authorization is based is modified by rule to include more stringent standards or conditions, or is not reissued, the applicant must comply with the requirements of the new regulations by applying for a new GP authorization or an Individual permit. The permittee shall submit written notification to the Bureau of Coastal and Land Use Compliance and Enforcement, NJDEP, P.O. BOX 422, East State Street, Trenton, NJ 08625-0422. At least seven days prior to the commencement of site preparation or of regulated activities, whichever comes first. The notification shall contain proof of recording of a conservation restriction or easement, if one was required as part of the permit.

CONDITIONS APPLICABLE TO THE COASTAL PERMIT #15 PERMIT:

35. The permittee shall comply with the Remedial Action Workplan (RAWP) dated November 27, 2012, revised July 16, 2013, and supplemented by the RAWP addendum dated August 15, 2013 and a PAH clarification letter dated August 23, 2013. The LSRP for the identified site in this permit is Alfred Free, EastStar Environmental Group, Inc., License # 575600. Any modification or changes to the construction activities authorized by this permit and/or the approved plans shall be approved in advance in writing by the Department.

CONDITIONS APPLICABLE TO THE FLOOD HAZARD AREA VERIFICATION:

36. Provisions of the Flood Hazard Area Verification

This portion of the permit verifies the flood hazard elevation at 13.0' NAVD in the FEMA A-Zone on-site and 15.0' NAVD in the FEMA V-Zone. The limits of each zone are shown on the approved plan sheets. Within 90 calendar days of the date of this permit, the permittee shall submit the following information to the clerk of each county in which the site is located, and shall send proof to the Department that this information is recorded on the deed of each lot referenced in the verification:

- a. The Department file number for the verification;
- b. The approval and expiration dates of the verification;
- c. A metes and bounds description of any flood hazard area limit and/or floodway limit approved under the verification;
- d. The flood hazard area design flood elevation, or range of elevations if variable, approved under the verification; and
- e. The following statement: "The State of New Jersey has determined that all or a portion of this lot lies in a flood hazard area. Certain activities in flood hazard areas are regulated by the New Jersey Department of Environmental Protection and some activities may be prohibited on this site or may first require a permit. Contact the Division of Land Use Regulation at (609) 777-0454 for more information prior to any construction onsite."
- f. Failure to have this information recorded in the deed of each lot and/or to submit proof of recording to the Department constitutes a violation of the Flood Hazard Area Control Act rules and may result in suspension or termination of the verification and/or subject the applicant to enforcement action pursuant to N.J.A.C. 7:13-19.

CONDITIONS APPLICABLE TO THE FLOOD HAZARD AREA INDIVIDUAL PERMIT:

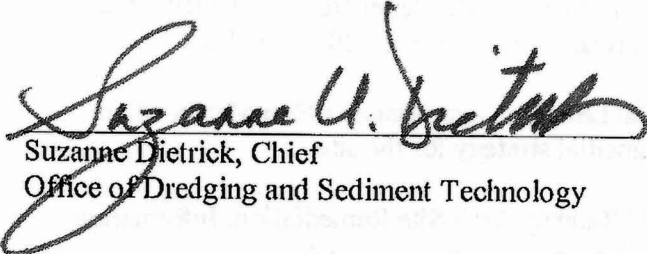
37. Within 120 days of the filing of the RAO for the site by the LSRP, the Class B recycling facility shall cease operation and be removed from the site.
38. All excavated material and dredged material shall be disposed of in a lawful manner. For example, it should be placed outside of any flood hazard area, riparian zone, regulated water, freshwater wetland and adjacent transition area, and in such a way as to not interfere with the positive drainage of the receiving area.
39. This project has not been reviewed for consistency with the applicable Areawide Water Quality Management Plan or the Statewide Water Quality Management Planning Rules at N.J.A.C 7:15. As such, this authorization shall not be construed as any type of consistency determination for any sewage generating structures on the project site. There shall be no development unless and until the proposed sewage generating structures have been found to be consistent with the appropriate Areawide Water Quality Management Plan. For information regarding the water quality planning process, please contact the Department at (609) 984-6888.

40. The Department has determined that this project meets the requirements of the Stormwater Management rules at N.J.A.C. 7:8 without the use of any BMPs. Any future expansion or alteration of the approved stormwater management system, which would affect water quality, increase the rate or volume of stormwater leaving the site, affect the infiltration capacity on the site, or alter the approved low impact site design, shall be reviewed and approved by the Department prior to construction. This includes any proposed changes to the discharge characteristics of any basin, the construction of new inlets or pipes that tie into the storm sewer network and/or the replacement of existing inlets or pipes with structures of different capacity.

Riparian Buffer Mitigation Requirements

41. The permittee shall compensate for the disturbance to 0.661 acres of forested riparian zone, 0.523 acres of shrub scrub riparian zone, and 1.578 acres of herbaceous riparian zone through an on-site restoration project as shown on the plans entitled "RIPARIAN ENHANCEMENT PLAN, RAHWAY ARCH PROPERTIES – SITE REMEDIATION, SALT MEADOW ROAD, BLOCK 602, LOT(S) 1 AND 8, BLOCK 603, LOT 1, AND BLOCK 705, LOT(S) 17 AND 18, BOROUGH OF CARTERET, MIDDLESEX COUNTY, NEW JERSEY" consisting of 2 sheets, dated January 23, 2013, last revised May 16, 2013 and prepared by Pamela J. Pellegrini of Kernan Consulting Engineers.
42. **The compensation project must be conducted prior to or concurrent with the construction of the approved project.** Concurrent means that at any given time, the compensation must track at the same or greater percentage of completion as the project as a whole.
43. **Prior to the initiation of regulated activities authorized by this permit,** the permittee shall sign a Department approved conservation restriction to protect the compensation area from future development that would remove the vegetation planted. (N.J.A.C. 7:13-10.2(t)3) The conservation restriction shall conform to the format and content of the Riparian Zone Compensation Area model located at <http://www.nj.gov/dep/landuse/forms/index.html>. The restriction shall be included on the deed and recorded in the office of the County Clerk (the Registrar of Deeds and Mortgages in some counties) in the county wherein the lands of the compensation project are located. A metes and bounds description shown on a map must be included within the recorded conservation restriction. Within 10 days of filing the conservation restriction, the permittee must send a copy of the recorded conservation restriction to the attention of the Mitigation Unit Supervisor, NJDEP, Division of Land Use Regulation at Mail Code 501-02A, P.O. Box 420, Trenton, NJ 08625-0420.
44. The permittee shall monitor the riparian project for at least 3 years beginning the year after the riparian zone compensation project has been completed (N.J.A.C. 7:13-10.2(u)5). The permittee shall submit monitoring reports to the Division of Land Use Regulation, no later than December 31st of each full monitoring year.
- a. All monitoring reports except the final one must include documentation and field data demonstrating that the goals of the riparian zone compensation project will be achieved as stated in the approved riparian zone compensation proposal and the permit requirements will be satisfied. If the permittee is finding problems with the compensation project and does not anticipate the site will be a full success, recommendations on how to rectify the problems shall be included in the report with a time frame in which they will be completed.
 - b. The final monitoring report must include documentation and data demonstrating the following:

- i. That the goals of the riparian zone compensation project as stated in the approved riparian zone compensation proposal and the permit conditions have been satisfied.
 - ii. That at least 85 percent of the compensation plantings have survived and that at least 85 percent of the compensation area is established with native species similar to ones identified on the compensation planting plan. All plant species in the compensation area must be healthy and thriving. All trees must be at least 5 feet in height; and
 - iii. That the site is less than 10 percent occupied by invasive or noxious species.
45. If the riparian compensation project does not meet the success criteria established above the project shall be considered a failure and the permittee shall submit a revised riparian compensation plan. The revised plan shall be submitted within 60 days of receipt of notification from the Division indicating the riparian compensation project was a failure.
46. If the Division determines that the riparian zone compensation project is not constructed in conformance with the approved plan, the permittee will be notified in writing by the Department and will have 60 days to submit a proposal to indicate how the project will be corrected.


Suzanne Dietrick, Chief
Office of Dredging and Sediment Technology

2/14/14
Date

**REVIEW OF HARDSHIP EXCEPTION REQUEST SUBMITTED BY RAHWAY ARCH
PROPERTIES
FEBRUARY 2014**

This document serves as a further evaluation of the hardship exception request pursuant to N.J.A.C. 7:13-9.8 originally submitted by Rahway Arch Properties, LLC (Rahway Arch) on November 2012, as supplemented by a January 17, 2013 Detailed Alternatives Analysis (January 2013 Analysis). Rahway Arch (applicant) has provided the following additional documents to supplement the original application and alternatives analysis:

1. Final Remedial Action Workplan (RAWP) and Licensed Site Remediation Professional (LSRP) certification form submitted July 16, 2013. The RAWP was supplemented by the LSRP in an addendum on August 15, 2013 and an August 23, 2013 clarification letter. The LSRP for the site is Albert Free, EastStar Environmental Group, Inc. (LSRP License #575600). The original RAWP was submitted to the SRP on November 27, 2012
2. August 29, 2013 letter from Lloyd Tubman of Archer and Greiner who represents Soil Safe, Inc., engaged by Rahway Arch to remediate the site. This letter provided additional hardship exception documentation following submission of the July 16, 2013 RAWP. Exhibit B of the August 29 letter included a June 18, 2013 letter from the LSRP which provided additional technical information related to the January 2013 Analysis.
3. A letter dated September 5, 2013, from the LSRP to Commissioner Bob Martin which provides additional information on the remedial strategy for the site.
4. A November 14, 2013 document entitled "Rahway Arch Site Remediation, Information in Support of Land Use Permit and Flood Hazard Hardship Waiver."

In evaluating Rahway Arch's application for a hardship exception, the New Jersey Department of Environmental Protection (Department) reviewed the above, as well as the following:

5. A document entitled "Alternative and Clean Fill Guidance for SRP Sites, Updated December 29, 2011, Version 2," NJDEP Site Remediation Program.
6. Solid Waste Regulations, N.J.A.C. 7:26 *et seq.*
7. Recyclable Material Regulation, N.J.A.C. 7:26A *et seq.*
8. Flood Hazard Area Control Act Regulations, N.J.A.C. 7:13-1.1 *et seq.*

As presented in Attachment 1 of the permit issued May 24, 2013, the applicant is seeking a hardship exception or a determination that a hardship exception is not required from three Flood Hazard Area regulations in order to remediate the site under the provisions of the Site Remediation Program, Technical Requirements for Site Remediation, N.J.A.C. 7:26E *et seq.* The Flood Hazard Area rules evaluated herein are:

- 1) **N.J.A.C. 7:13-11.16, Requirements for the Storage of Unsecured Material.** This regulation states that this section governs this type of activity if not addressed under N.J.A.C. 7:13-11.17 and N.J.A.C. 7:13-11.18. This regulation will be addressed under the review of the hardship exception request under N.J.A.C. 7:13-11.17.
- 2) **N.J.A.C. 7:13-11.17, Requirements for the Storage, Processing and Placement of Hazardous Substances**
- 3) **N.J.A.C. 7:13-11.18, Requirement for the Storage, Processing and Placement of Solid Waste**

N.J.A.C. 7:13-11.18, Requirement for the Storage, Processing and Placement of Solid Waste

The Solid Waste Regulations at N.J.A.C. 7:26-1.6(a) define solid waste as follows:

7:26-1.6 Definition of solid waste

(a) A solid waste is any garbage, refuse, sludge, or any other waste material except it shall not include the following:

2. Recyclable materials that are exempted from regulation pursuant to *N.J.A.C. 7:26A*;
3. Materials approved for beneficial use or categorically approved for beneficial use pursuant to *N.J.A.C. 7:26-1.7(g)*;

7:26-1.7 Exemption from SWF permitting

(g) This subsection sets forth the specific criteria for exempting beneficial use projects.

4. The following materials are categorically approved for beneficial use and require no future approval or authorization for use or reuse provided they are used or reused in a manner consistent with *N.J.A.C. 7:26-1.1*:
 - v. Contaminated soil that has been decontaminated to the satisfaction of the Department and is used or reused in a manner acceptable to the Department;

The material, petroleum contaminated soil and concrete, asphalt, brick and block (CABB), to be processed at the Class B Facility will be regulated under the Recycling Regulations (*N.J.A.C. 7:26A et seq.*), not the Solid Waste Regulations because, as explained below, the material is exempt from solid waste facility permitting. The petroleum contaminated material that will be processed at the facility will be treated to soil remediation standards that will allow for it to be beneficially used in the remediation of the site in accordance with the RAWP and specifically the Fill Use Plan contained in Section 7 of the RAWP. The recycled soil will meet Residential Direct Contact Soil Remediation Standards (Residential Standards) for all parameters except six polynuclear aromatic hydrocarbons (PAHs) that currently exist on the site at concentrations that exceed the Residential Standards. As described in the Fill Use Plan, the concentrations of these six PAH compounds in the recycled soil will be less than the existing concentrations on the site.

The applicant also notes that the incidental amounts of CABB imported with the petroleum contaminated soil will be crushed and blended and used on site. This CABB is typically mixed with the petroleum contaminated soil and is generally less than 10% of the total weight of material processed at the Class B recycling facility. The LSRP has approved the Fill Use Plan that was developed in accordance with the December 29, 2011, Version 2, Alternative Fill and Clean Fill

Guidance for SRP Sites. This Guidance Document defines the levels to which contaminated soils must be treated to be placed on the site in order to comply with SRP Technical Requirements for Site Remediation, N.J.A.C. 7:26E. This guidance document also recognizes in Section 3.10 that alternative fill may be placed on SRP sites provided it complies with N.J.A.C. 7:26-1.7 (g) 4 v. Thus, provided the material is reused on the site consistent with the LSRP's approved RAWP and Fill Use Plan, it will be beneficially used on the site in a manner that is acceptable to the NJDEP, Site Remediation Program.

Given the above, the Department has determined that the petroleum contaminated soils and CABB to be processed and used to remediate the site do not constitute a solid waste under N.J.A.C. 7:26-1.6 (a)(3), and thus the Flood Hazard Area regulations at N.J.A.C. 7:13-18 are not applicable to this project.

N.J.A.C. 7:13-11.17, Requirements for the Storage, Processing and Placement of Hazard Substances

As discussed in Attachment 1 of the permit issued May 24, 2013, the project falls under the provisions of this regulation since petroleum contaminated soils are proposed to be imported to the Class B facility for processing, storage and placement on the site. For completeness, the following is taken from Attachment 1 in the existing permit:

Under the flood hazard area control act rules "Hazardous substance means material defined as such in the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11." The Spill Compensation and Control Act states that "Hazardous substances means the "environmental hazardous substances" on the environmental hazardous substance list adopted by the department pursuant to section 4 of P.L.1983, c.315(C.34:5A-4); such elements and compounds, including petroleum products, which are defined as such by the department, after public hearing, and which shall be consistent to the maximum extent possible with, and which shall include, the list of hazardous substances adopted by the federal Environmental Protection Agency pursuant to section 311 of the federal Water Pollution Control Act Amendments of 1972, Pub.L.92-500, as amended by the Clean Water Act of 1977, Pub.L.95-217 (33 U.S.C. 1251 et seq.); the list of toxic pollutants designated by Congress or the EPA pursuant to section 307 of that act; and the list of hazardous substances adopted by the federal Environmental Protection Agency pursuant to section 101 of the "Comprehensive Environmental Response, Compensation and Liability Act of 1980," Pub.L.96-510 (42 U.S.C. 9601 et seq.); provided, however, that sewage and sewage sludge shall not be considered as hazardous substances for the purposes of this act." Please note the underlined portion of the definition in the Spill Compensation and Control Act. Petroleum products are defined as hazardous substances. Since the soils in question are contaminated with a hazardous substance (petroleum products), the placement, storage, and processing of those soils on-site is prohibited by the Flood Hazard Area Control Act Rules at N.J.A.C. 7:13-11.17. A hardship exception has been requested from this section.

The hardship exception request is based on the Department's interpretation as set forth in Attachment 1 that petroleum contaminated soil is a hazardous substance.

REVISED HARDSHIP EXCEPTION REVIEW

The Department has addressed Processing and Storage and Placement of petroleum contaminated soils (hazardous substances as defined above) separately in this evaluation.

Processing and Storage of Material at the Class B Facility

As stated by the applicant in the August 29, 2013 letter from Lloyd Tubman, and as verified by the DLUR Engineer in Attachment 1 of the May 2013 permit, the areas of the Class B facility to be used for the processing and storage of material will be located entirely above the Advisory Base Flood Elevation (ABFE) of 15' NAVD88 (North American Vertical Datum of 1988).

Specifically, the entire area of the site that will be used for the Class B facility will be raised above the ABFE prior to construction of the Class B facility. Immediately following completion of the remediation project, the temporary Class B facility will be dismantled and removed from the site and the area where the Class B facility was located will be capped as shown in the final remediation plans in the RAWP.

The Flood Hazard Area Control Act rules at *N.J.A.C. 7:13-11.17* set forth requirements for the placement, storage or processing of hazardous substances in "regulated areas." Regulated areas include any "flood hazard area" and any "riparian zone" of the State. Since the entire area of the site that will be used for the Class B facility will be situated well above the flood elevation, this aspect of the project is not subject to flooding or the requirements of *N.J.A.C. 7:13-11.17*. The DLUR Engineer's review of the approved plans dated May 6, 2013, and of the RAWP as amended and supplemented through August 23, 2013, confirms that the Class B facility and all processing and storage of associated material will be situated above the ABFE and therefore not within a regulated flood hazard area. Therefore, the hardship exception requested by the applicant in November 2012, and identified as necessary by the Department prior to submission of the approved plans and the RAWP revision and supplements, is not required.

Note that FEMA released revised flood mapping for this location in July 2013 that eliminated the advisory V-Zone on the site and reduced the ABFE to 12' NAVD in some portions of the site and 13' NAVD on other portions of the site. This occurred after the site plans for the Class B recycling facility were finalized and submitted to NJDEP. Nevertheless, the applicant will continue to adhere to FEMA's prior ABFE and maintain the 15' NAVD elevation as the minimum elevation for the Class B recycling facility, resulting in the entire Class B facility being at either two or three feet above the current ABFE.

Placement of Material – Engineered Fill Placement for Remediation Purposes and Alternative Fill for Construction of the Temporary Class B Recycling Facility

The use of the engineered fill from the Class B recycling facility to remediate the site and the use of Alternative Fill (as defined by the SRP Alternative and Clean Fill guidance document) to create the Class B recycling facility itself requires a hardship exception from *N.J.A.C. 7:13-11.17*.

N.J.A.C. 7:13-1.2 defines "hazardous substance" as "material defined as such in the Spill Compensation and Control Act (Spill Act), N.J.S.A. 58:10-23.11". The Spill Act defines "hazardous substances" as the 'environmental hazardous substances' on the environmental hazardous substance list adopted by the Department...." The adopted list is Appendix A to N.J.A.C. 7:1E. Petroleum oil/motor oil is listed in Appendix A, and accordingly soil containing petroleum oil is considered a hazardous substance under the Spill Act. This is true regardless of the fact that the soil will be remediated pursuant to the Department's Technical Standards for Site Remediation. Therefore, placement of engineered fill below the ABFE is subject to the requirements of N.J.A.C. 7:13-11.17. In light of additional information since the original hardship exception application dated November 2012, as set forth above, the Department has further evaluated Rahway Arch's hardship exception request as follows.

N.J.A.C. 7:13-9.8 – Hardship Exception for an Individual Permit

Applicants proposing projects that cannot meet the requirements for a flood hazard area individual permit can appeal to the hardship exception provision at N.J.A.C. 7:13-9.8. Under this provision, the Department can issue an individual permit for a regulated activity that cannot achieve strict compliance with the requirements of N.J.A.C. 7:13 in certain cases. Specifically, a project is eligible for a hardship exception if it meets at least one of the requirements listed at N.J.A.C. 7:13-9.8(a) (denoted as "first tier" below), and provided the project additionally meets all requirements listed at N.J.A.C. 7:13-9.8(b) (denoted as "second tier" below.)

First Tier

In order for the Department to entertain a hardship exception under an application for an individual permit, the applicant must first demonstrate one or more of the following:

- 1. The Department determines that there is no feasible and prudent alternative to the proposed project, including not pursuing the project, which would avoid or substantially reduce the anticipated adverse effects of the project, and that granting the hardship exception would not compromise the reasonable requirements of public health, safety and welfare, or the environment;*

Alternatives Analysis

Attachment 1 of the issued permit provides a discussion by the DLUR engineer of the alternative analysis submitted in January 2013 by the LSRP along with the November 2012 hardship exception request. As was stated in the Alternatives Analysis report, the analysis was performed retrospectively to the remedial design and engineering process. Both the current and previous site owners explored many potential solutions to first and foremost remediate and secondly develop the site with little success. Repeated efforts, including discussions regarding those potential solutions with the Department, were made which considered a wide range of potential capping options. However each of these solutions was found to be not feasible for a variety of reasons.

The selection of the preferred process and remedy was made after a significant amount of consideration and effort, as well as extensive remedial and geotechnical investigations and analyses that allowed a feasible remedial design to be developed.

In this evaluation, the DLUR engineer, using Rahway Arch's analysis, identified two alternatives that were deemed "Satisfactory" by Rahway Arch and other alternatives that appeared to be feasible based on the limited information provided by Rahway Arch. Thus, the Department could not grant the hardship exception request in May 2013 and requested additional documentation from Rahway Arch at that time.

Rahway Arch in its August 29, 2013 letter provided additional information to support its hardship exception request. Specifically, Exhibit B consisted of a June 18, 2013 letter from AI Free, LSRP for the site, which more fully explained the evaluation of alternatives to remediate the site. Also included in the August 29, 2013 submission, was the July 16, 2013 RAWP submitted by the LSRP to the Site Remediation Program. It is noted that the original RAWP was submitted to the SRP on November 27, 2012. The RAWP underwent a SRP component review which resulted in the RAWP being supplemented by the LSRP in an addendum on August 15, 2013 and an August 23, 2013 clarification letter. The RAWP was deemed complete by the Site Remediation Program on August 26, 2013 under the provisions of the Administrative Requirements for the Remediation of Contaminated Sites (ARRCS), N.J.A.C. 7:26C.

For purposes of this revised alternatives analysis review, the following describes the remediation requirements as detailed in the July 16, 2013 RAWP approved by the LSRP (as amended):

- ☐ Eliminate direct contact hazard with contaminated surface fill materials and alum-YPS sludge
- ☐ Prevent precipitation from coming in contact with the contaminated materials and discharging to groundwater or surface water
- ☐ Promote runoff and evapotranspiration of precipitation rather than infiltration
- ☐ Ensure the long term integrity of the berms
- ☐ Eliminate site safety hazards posed by soft soils and sludge and ponded water in the impoundments
- ☐ Allow safe passive uses, including habitat, and possible future development on a portion of the site by the property owners, making at least a portion of the site usable.

This remedial action will consist of a combination of engineering and administrative controls. An engineered fill cap system will achieve the goals of the site remediation. Administrative controls will ensure that the cap remains protective and will address existing contaminant concentrations in the groundwater.

These requirements are further clarified in the Background section of the August 15 RAWP Addendum which describes all of the Applicable or Relevant and Appropriate Requirements (ARARs) applicable to remediation of this site.

By filing the July 16, 2013 RAWP (as amended), the LSRP has certified that the RAWP complies with the Technical Requirements for Site Remediation, N.J.A.C. 7:26E, and the Administrative Requirements for the Remediation of Contaminated Sites (ARRCS) as an acceptable remedial action to address contamination at this site. Upon completion of the Remedial Action in accordance with this RAWP, the LSRP anticipates that a Response Action Outcome (RAO) will be filed for the site in accordance with the ARRCS. An RAO is defined in in ARRCS at N.J.A.C. 7:26C-1.3 as a Final Remediation Document and means:

a written determination by a licensed site remediation professional that the site was remediated in accordance with all applicable statutes, rules and guidance, and based upon an evaluation of the historical use of the site, or of any area of concern at that site, as applicable, and any other investigation or action the Department deems necessary, there are no contaminants present at the site, at the area of concern or areas of concern, or at any other site to which a discharge originating at the site has migrated, or that any contaminants present at the site or that have migrated from the site have been remediated in accordance with applicable remediation statutes, rules and guidance and all applicable permits and authorizations have been obtained.

Using the LSRP approved RAWP, a letter dated January 17, 2013 which provided a detailed alternatives analysis by the LSRP, and the LSRP's letter of June 18, 2013, which concluded that the only feasible remediation alternative for the site was capping the site with engineered fill material manufactured by a temporary Class B facility constructed on the site and removed upon completion of the remedial action, the Department has further evaluated the alternatives analysis for the remediation of the site. The Department's analysis follows.

Evaluation of Detailed Alternatives Analysis

1. No Action Alternative

The current site conditions are such that the alum-YPS lagoons and surrounding berms are unstable and present a site hazard. The site is in need of remediation to eliminate ongoing discharges to the underlying ground water and adjacent surface waters of the Rahway River and to address contamination issues on the site. The conditions on the site have been documented in numerous technical reports prepared by the Responsible Party (Cytec and its predecessors) and the LSRP and are summarized in the Remedial Investigation Report (RIR).

This No Action Alternative does not accomplish any of the remediation requirements established by the LSRP for the site or any of the requirements for site remediation contained in the Technical Requirements for Site Remediation (Tech Rule), N.J.A.C. 7:26E and the ARRCS. The No Action Alternative is not an acceptable alternative for remediation of this site.

2. Excavation of Alum-YPS Sludge Lagoons and Surrounding Berms and Import Clean Fill

This alternative would require the removal of approximately 2,000,000 tons of contaminated material from the site. The description of this alternative in the original January 2013 analysis did not provide enough information to clearly demonstrate that this remedial approach was not feasible but only stated that due to the high groundwater table, the ability for a contractor to compact the backfill would be impeded. Thus it was concluded that only coarse grained material that did not need to be compacted could be used in the remediation. However, Table 1 which evaluated the alternatives demonstrated that this alternative would only be marginally effective in eliminating infiltration and ensuring the long term stability of the site. Additionally, as shown in Table 3, this alternative was only marginal in its ability to meet the short term effectiveness, implementability and community acceptance evaluation criteria.

The June 18 analysis provided additional details regarding the analysis by the LSRP and indicated that the saturated nature and "negligible shear strength" of the alum-YPS sludge in the lagoons was such that it could not be excavated and trucked out of the property. The LSRP further stated that any material from within the lagoons that could be excavated using the surrounding berms as a stable platform would need to be dewatered on the property. The LSRP stated that no such area exists that is not within the confines of the lagoons themselves or adjacent wetlands on the property.

It was further noted by the LSRP that available capacity at permitted landfills to accept 2,000,000 tons of material was limited. Further, the saturated nature of the material could pose operational issues at the landfill itself.

Thus, the LSRP concluded that Excavation of the Alum-YPS Sludge alternative was not feasible from an engineering and construction standpoint, and disposal of the 2,000,000 tons of sludge would cause engineering and operational concerns at the receiving landfill facility.

3. In-situ Stabilization and Filling with Clean Fill

The DLUR's previous review of this alternative noted that Rahway Arch stated that this alternative would limit the potential for future development of the site, but that the applicant did not fully substantiate this claim.

The June 18, 2013 analysis provided additional engineering information by the LSRP as to why this option was not feasible. The alternatives analysis did not discuss how and with what types of materials the alum-YPS sludge lagoons might be stabilized because there is no proven technology for stabilization of the alum-YPS sludge. Cytec had previously evaluated and rejected a concept plan to stabilize the alum-YPS sludge using Portland cement, along with other pozzlonic additives.

To evaluate this alternative, the LSRP assumed that stabilization of the alum-YPS sludge could be obtained utilizing Portland cement. The LSRP also assumed that the cement could

be mixed into the sludge in situ using a commercially available hydraulic soil mixing attachment mounted to a tracked excavator. The mixing equipment would need to start from the berms and work inward to the centers of the impoundments, once the sludge had been sufficiently stabilized to support the excavator.

The additional engineering information contained in the June 18 document further substantiated the fact this alternative was not feasible by reviewing the properties of the fill material and underlying alum-YPS sludge. The alum-YPS sludge has lower permeability than would be obtained from the fill that would be placed on top of the stabilized sludge. The lower permeability sludge would trap water in the lagoons, continuing the existing conditions despite the addition of the fill. As discussed in the June 18 document, one of the primary rules in designing a cap system is that the permeability of the cap material must be less than the permeability of the underlying materials.

The alternatives analysis focused on the fact that this alternative would not achieve the remediation requirements for the site. The sludge itself would still be of lower permeability and the impoundments would still retain water. The LSRP used the term "bathtub effect" to explain that the retained water would still leach through the sludge to the underlying groundwater and then to surface waters. Since the clean fill has a higher permeability than the alum-YPS sludge, water that percolates through the clean fill will be trapped by the sludge. This water will continue to accumulate until the clean fill is saturated. As was described in the June 18 letter, allowing the fill material above the sludge to become saturated will increase the volume of water that percolates through the sludge because it will increase the hydrostatic head that pushes the water through the sludge.

Further, the placement of clean fill of higher permeability over the sludge material would over time get saturated itself by the water retained in the impoundments and would not be able to serve as an acceptable cap for the sludge lagoons themselves. Saturating the fill will lower its shear strength and maintaining the alum-YPS sludge in its current saturated state will ensure that its shear strength will remain negligible. In addition, the impoundments would still not be stable enough to allow for further development on the property and the lagoons themselves would continue to be a site hazard.

Cytec had previously evaluated the permeability of the alum-YPS sludge in the lagoons. The average permeability was 3×10^{-5} cm/s with the lowest permeability at 8×10^{-6} cm/s. Permeability of the sludge was lowest in the centers of the impoundments and increased near the berms. Any cap system used on the site must have a lower permeability than the sludge to prevent water from continuing to pond inside the impoundments.

The clean fill considered by this alternative was common borrow. Common borrow is clean fill soil imported from off-site sources that does not meet any specific engineering requirements, has a gradation range from gravel through silts and clays and is commonly used for embankments, rough site grading and most of the fill on road construction projects. Its gradation will vary significantly based upon the source of the borrow material. Depending upon the gradation, permeability will range from 1×10^{-2} to 1×10^{-4} cm/s. In any case, the

permeability of this fill will be higher than the alum-YPS sludge, causing water to be trapped within the impoundments.

By means of contrast, the engineered fill from the Class B recycling facility that will be used to cap this site under Alternative 7 (Preferred Alternative), has a permeability of 2×10^{-6} cm/s or less. Therefore, the engineered fill will create an effective cap because it has a lower permeability than the underlying material. Water will run off the surface of the cap and not accumulate in the impoundments. As part of Alternative 7, this water runoff will be collected and managed in a stormwater management system and will be discharged in a controlled manner to prevent erosion and flooding.

The LSRP determined that this In Situ Stabilization alternative would not meet the remediation requirements of 1) eliminating the infiltration of runoff into the underlying groundwater, 2) addressing the site hazards associated with the unstable lagoons, and 3) allowing for future development. Since this approach does not meet the identified remediation requirements, as established by the LSRP, it would also not comply with the Tech Rule and ARRCs as required for the site to be remediated to allow for an RAO to be submitted for the site.

4. Fill the Alum-YPS Sludge Ponds with Unprocessed Alternative Fill from Outside Sources

The January 2013 and June 18, 2013 analysis provided by the LSRP stated that this alternative would essentially be no different than Alternative #3 in that the alternative fill from outside sources, which would be unprocessed and unscreened, would be of higher permeability that would over time become saturated by the water retained in the impoundment areas. This would result in the impoundments continuing to be unstable and would not address the unsafe conditions at the site.

The June 18, 2013 analysis further expanded on the issues surrounding the alternative fill by explaining that the geotechnical properties of material from outside sources would be variable as it would not be processed to provide consistent gradation and uniform geotechnical properties. The fill sources would also likely contain large volumes of oversize material (construction and demolition debris) since it would not be screened prior to its placement within the impoundments.

Similar to Alternative #3, the Fill the Alum-YPS Sludge Ponds with Unprocessed Alternative Fill alternative would not meet the remediation requirements of 1) eliminating the infiltration of runoff into the underlying groundwater, 2) eliminating the site hazards associated with the unstable lagoons, and 3) allowing for future development.

Since this alternative does not meet the remediation requirements, as established by the LSRP, it would also not comply with the Tech Rule and ARRCs as required for the site to be remediated to allow for an RAO to be submitted for the site by the LSRP.

5. *Fill the Alum-YPS Sludge Ponds with Alternative Fill and Cover with a Geomembrane Cap.*

The June 18 letter discussed why this alternative is not a prudent alternative for remediation of this site. The geotechnical and remedial investigations have shown that extensive settlement will occur as the alum-YPS sludge and the underlying peat layer are consolidated by the load from the fill. This settlement will occur over time and will be monitored during the remediation using the groundwater and geotechnical monitoring systems described in the RAWP and the RAWP Addendum.

A geomembrane over this fill will experience tensile stress caused by the settlement of the underlying materials. The elasticity of a geomembrane is relatively low. Since the material will not stretch in response to these tensile stresses, it will fail. These failures may occur in both the fabric and at the welded seams. Failure of the geomembrane will create holes through which water can infiltrate into the underlying material.

The geomembrane cannot be left exposed at the surface. It must be covered with a soil layer to provide UV protection and to grow grasses over the site. Since the geomembrane would be buried beneath soil and grass and cannot be observed from the surface, it cannot be determined whether any failure has occurred. A failure of the geomembrane could therefore go undetected for long periods of time, reducing the effectiveness of the remediation without any visual indication at the surface. As a result, the long term effectiveness and performance of this alternative would be reduced.

The long term effectiveness and performance of this alternative is further compromised because it does nothing to stabilize the existing berms. The geotechnical analysis of the remedial action demonstrated that to achieve the necessary factors of safety to ensure the long term stability of the berms, strict geotechnical specifications for the fill material must be met. The unprocessed alternative fill considered by this alternative, as well as the fill considered for Alternatives 3 and 4, will not possess the geotechnical characteristics necessary to meet these specifications. Only by processing the fill through the Class B recycling facility, (Alternative 7 – the preferred alternative) can those specifications be achieved.

The geomembrane may also limit future development of the site by impacting a developer's ability to construct footings and a foundation over the geomembrane liner.

Since this Alternative Fill and Geomembrane alternative does not have long term effectiveness it would be less effective than the preferred alternative. In addition, it would cost approximately twice as much as the preferred alternative. Therefore, the LSRP determined that the preferred alternative is the better option for remediation of this site.

6. *Use of Processed Dredged Material (PDM) as Alternative Fill*

As noted in the DLUR engineer's review of the January 2013 alternative analysis, Rahway Arch did not consider this alternative as a viable approach because PDM material (which is sediment processed with Portland cement) that could be used on the site would not be fresh material. PDM is processed by mixing 7-8% portland cement into the dredge materials. The cement starts to hydrate immediately after mixing. If the PDM is not placed quickly, the cement will harden and the resulting PDM fill will be fairly granular and have higher permeability than would be acceptable for the cap. The shear strength would also be lower than the engineered fill. As a result the PDM would be a more granular material than the engineered fill and would not have the reduced permeability necessary to cap the site and would have a lower shear strength. The unreliability of the supply of PDM material, the need for additional permitting, and the longer project schedule due to possible lack of availability of PDM further reduce the viability of this alternative. The analysis also determined that it would be only marginally effective as a remediation alternative for both short term effectiveness and implementability.

In the June 18, 2013 letter, the LSRP expanded on the previous statement that "a lack of homogeneity among various PDM sources" was one reason why this alternative was not feasible. Specifically, as is the case with outside sources of alternative fill (soil), PDM is available from various dredging contracts for the NY/NJ Harbor Complex, but the homogeneity of the material varies depending on the location in the harbor where the sediments were removed. Thus, the material once processed can vary in its composition and in its geotechnical properties. In addition, PDM has a higher moisture content than most soils which presents additional engineering concerns with its use as fill material in the remediation of the alum-YPS sludge lagoons. Use of PDM has the additional potential to introduce more water into the lagoons that could leach contaminants into the underlying groundwater and adjacent surface waters.

Similar to Alternatives 3, 4 and 5, due to the higher permeability and higher moisture content of the PDM versus the alum-YPS sludge material, the PDM would not serve as an effective fill or cap material in the remediation of the site and thus would not meet the LSRP's remediation requirements of 1) eliminating the infiltration of runoff into the underlying groundwater, 2) addressing the site hazards associated with the unstable lagoons, and 3) allowing for future development.

Since this Processed Dredge Material alternative does not meet the identified remediation requirements as established by the LSRP, it would also not comply with the Tech Rule and ARRCs as required for the site to be remediated to allow for an RAO to be submitted for the site.

It should also be noted that, over the years, several concept plans to cap the site using processed dredge material were abandoned prior to final design and implementation. Technical issues with the site and market supply of acceptable materials were the primary reasons cited.

7. Cap Site with Processed Class B Recyclable Soil – PREFERRED ALTERNATIVE

As identified in the January 17, 2013 Detailed Alternatives Analysis, this approach calls for the capping of the site with alternative fill that has been blended, screened and processed into an engineered fill that will have consistent geotechnical properties due to the material being processed in a single Class B recycling facility to produce a structural fill. As is described in detail in the Fill Use Plan contained in Section 7 of the RAWP, processing in the Class B recycling center begins with the soil being blended to achieve consistent geotechnical properties. The blended soil is then screened to remove oversize, typically rocks and incidental amounts of asphalt, concrete, brick and block. The screened soil is processed in a pugmill where it is blended with pozzlonic additives. Oversized material removed in the screening process is crushed and either returned to the raw material stockpile for re-processing or used on site as crushed aggregate. The process results in an engineered fill material that has consistent geotechnical properties.

Experience with this engineered fill product on other capping sites in New Jersey has shown that the Soil Safe product achieves the consistent geotechnical properties necessary for this project. The product has consistently met an AASHTO A-2-4 soil classification, can be readily compacted to 92-95% of modified Proctor and when properly placed and compacted achieves permeability in the order of 1×10^{-6} cm/s.

Consistent properties are achieved because the soil is processed through the Class B recycling facility. Processing provides consistent classification and moisture content, resulting in a consistent grain size distribution and elimination of deleterious and oversized materials. This then allows proper spreading and compaction. The pozzlonic additives increase the strength and result in lower permeability in the compacted engineered fill.

The engineered fill material is placed in 8-12 inch loose lifts by a bulldozer and compacted with a vibratory roller. The material is placed at a moisture content 0-2% above optimum to further aid in compaction and permeability reduction.

The engineered fill material is handled and placed as a granular material, and it exhibits the geotechnical properties of the blended soil. However, after the material has been placed and compacted, the additives hydrate and form a solid soil-cement matrix.

The engineered fill will be processed to meet the engineering specifications of a lower permeability than the underlying alum-YPS sludge, and a high shear strength to serve as cap material over the entire site that will also address the site hazards associated with the unstable lagoons and berms.

Chemical composition of the alternative fill is described in the RAWP and RAWP Addendum approved by the LSRP and reviewed by SRP, and meets the requirements of the Fill Guidance document. The alternative fill complies with the alternative fill requirements of the Tech Rule (NJAC 7:26E-5.2(b) and Chapter 4 of the Fill Guidance document. The concentrations in the alternative fill will be below Residential Standards for all parameters

except the six individual PAH compounds that presently exist on the site at concentrations above the Residential Standards. The concentrations of these six PAH compounds will be less than half of the existing concentrations of these compounds on the site. Use of Alternative Fill on this site is supported by the Fill Guidance. This approach as proposed meets all of the remediation requirements as detailed by the LSRP in the RAWP, RAWP Addendum and the Clarification Letter.

Stabilization of the unsafe conditions in the existing lagoons is fully addressed by this Cap with Processed Class B Recycled Soil alternative because of the consistent geotechnical properties that will be achieved by manufacturing the engineered fill at the on-site Class B recycling facility. The increased shear strength and reduced permeability that will be achieved by the solidification/stabilization process used in the Class B recycling facility and the proper placement of the engineered fill product using the strict placement specifications will remediate these conditions. The structural stability of the capping system, the capped site and the containment berms using the engineered fill product and the placement specifications was verified by the geotechnical consultant based upon the existing site conditions and the minimum acceptable properties of the engineered fill. The stability of the site, including the berms, will be monitored during construction of the cap system by the geotechnical consultant who will report the results to the LSRP. The geotechnical monitoring program is described in the RAWP.

As a result of all of the detailed engineering analyses, the Cap with Processed Class B Recycled Soil was selected by the LSRP as the preferred alternative.

2. *The Department determines that the cost of compliance with the requirements of this chapter is unreasonably high in relation to the environmental benefits that would be achieved by compliance; and*

N.J.A.C. 7:13-11.17 prohibits the placement of hazardous substances, in this case recycled petroleum-contaminated soils, in the flood hazard area. Although containing a hazardous substance under the Spill Act, the engineered fill product from the Class B facility will meet the N.J.A.C. 7:26E-1.8 definition of Clean Fill and the SRP definition of Alternative Fill.

One alternative for the remediation of this site that clearly meets the requirements of N.J.A.C. 7:13-11.17 is Alternative #2. Alternative #2 involved excavating the 2,000,000 tons of contaminated fill (sludge lagoons and surrounding berms) from the site, and importing the same volume of clean fill to raise the site above the ABFE to allow for development of the site. The cost to implement this remedial approach for the site is \$265,000,000, compared to the preferred alternative cost of \$15,000,000. It should also be noted that this alternative was deemed not feasible from engineering and construction standpoint based on the existing unstable site conditions and the fact that disposal of the sludge lagoon material at a permitted landfill, if capacity could be found, could create a new set of environmental impacts at the landfill itself.

Alternative #3 may also meet the requirements of N.J.A.C. 7:13-11.17 in that the alum-YPS sludge lagoons would be stabilized and "clean fill" would be used as the cap material for the remediation of the site. While this alternative does address the regulation because hazardous

substances would not be placed in the flood hazard area, as discussed in the alternative analysis, this approach does not resolve the underlying issues with the sludge lagoons and impacts to the underlying groundwater and adjacent surface waters of the Rahway River from water continuing to be retained in the lagoons and the inability of the clean fill to serve as cap material given its geotechnical properties. The cost to implement this remedial approach was determined to be \$304,000,000, compared to the preferred alternative cost of \$15,000,000.

Thus, the cost to comply with *N.J.A.C. 7:13-11.17* through the implementation of alternatives 2 and 3 would be significantly higher than the preferred alternative, and the two identified alternatives that would meet the regulation requirements have been determined not feasible from an engineering and construction standpoint to meet the remedial objectives for the site as approved by the LSRP in the RAWP to meet the Tech Rule and ARRCs.

3. *The Department and applicant agree to one or more alternative requirements that, in the judgment of the Department, provide equal or better protection to public health, safety and welfare and the environment.*

The LSRP has determined that the preferred alternative meets all of the remedial objectives that have been deemed necessary to properly remediate the site as set forth in the RAWP approved by the LSRP.

Remediation of the site will be implemented in accordance with the RAWP, which has been prepared in accordance with the Tech Rule and ARRCs. The Department finds that the alternative contained in the RAWP will provide better protection to public health, safety and the environment than the current site conditions.

This preferred alternative consists of importing soil to a temporary Class B recycling facility located on the site. The Class B recycling facility will process the imported soil to manufacture engineered fill that will meet the environmental and geotechnical specifications needed to properly remediate this site. The temporary Class B recycling facility will be dismantled and removed from the site near the end of the remediation project.

The cap system for the site has been designed to meet the remediation requirements established by the LSRP to remediate the site in accordance with the Tech Rule and ARRCs and to allow issuance of a final remediation document. The grading shown on the remediation plans is the minimum volume of engineered fill necessary to construct a capping system that meets the remediation requirements and to provide short term and long term protection of human health and the environment.

The use of an on-site Class B recycling facility provides the highest level of quality control on the engineered fill. Soil Safe, the reclamation contractor, will both manufacture and place the engineered fill and construct the capping system. This ensures both the availability and quality of the engineered fill product to meet the cap system requirements within the regulatory timeframe available for site remediation.

Importing engineered fill from an off-site facility to remediate the Rahway Arch property is not economically viable because it would require double handling of the soil and a haul, by truck, from the off-site facility to Rahway Arch. Soil Safe operates a Class B recycling facility in Logan Township, Gloucester County, New Jersey, for the purposes of remediating several sites in the Logan Township area. Ignoring the facts that the environmental and geotechnical criteria for the engineered fill at the southern New Jersey sites are different from the requirements at the Rahway Arch property and that the Rahway Arch property is not an approved end market for the Logan facility; importing engineered fill from Logan would create a significant negative environmental impact.

To evaluate the environmental impact of importing engineered fill from Logan into Rahway Arch, Soil Safe provided source location data for the recyclable delivered to Logan for the five year period from 2008 through 2012. This data was analyzed to identify the sources that were closer to Rahway and the sources that were closer to Logan. Sources closer to Rahway were New York, Connecticut and the New Jersey counties north of Trenton (Bergen, Essex, Hudson, Hunterdon, Mercer, Middlesex, Monmouth, Morris, Passaic, Somerset, Sussex, Union and Warren Counties). All other sources were considered to be closer to Logan.

Over the past 5 years, Soil Safe has recycled 2,640,000 tons of soil at Logan. Of that total, 2,060,000 tons (78% of the total) came from locations that are closer to Rahway Arch than to Logan. Assuming that this trend continues, placing the Metro12 Class B recycling facility at the Rahway Arch Site and recycling this soil there rather than at Logan will reduce the haul distance of all of the raw material necessary to remediate the Rahway Arch property.

The Logan property is approximately 100 miles south of the Rahway Arch property. For sources north of the Rahway Arch property, construction of the Metro12 site will reduce the haul distance by 100 miles. For sources between Trenton and Rahway Arch, construction of the Metro12 site will reduce the haul distance by up to 60 miles.

In addition, if the engineered fill product is manufactured at Logan, it must be then loaded onto trucks and hauled north to the Rahway Arch site, an additional 100 mile haul distance. Therefore, construction of the Metro12 facility will eliminate between 160 and 200 miles of haul distance for all of the soil that is needed to remediate the site.

Looking at this from an environmental standpoint, the impact to the environment is a direct function of vehicle miles traveled (VMT). These impacts will include diesel fuel, exhaust emissions and road wear and tear. Secondary impacts also include safety concerns about additional trucks on crowded highways, vehicle wear and tear and potential damage to other vehicles from tires and other debris.

A truck hauling soil will carry a payload between 20 and 25 tons. Hauling 2,000,000 tons of soil will require 80,000 truckloads at 25 tons per load. These trucks will average between 5 and 6 miles per gallon of diesel fuel. At 5 mpg, the additional 60 mile haul distance to Logan will expend 960,000 gallons of diesel fuel. The haul of the engineered fill product from Logan to Rahway Arch will expend 1,600,000 gallons of diesel fuel. Therefore, the impact of not constructing the Class B at the Rahway Arch site will be wasting 2,560,000 gallons of diesel

fuel. Burning 2,560,000 gallons of fuel will result in corresponding emissions of particulates, CO, CO₂ and NO_x furthering the negative environmental impact of not constructing the Class B recycling facility on the Rahway Arch site.

2nd Tier

Under N.J.A.C. 7:13-9.8(b), the Department must make a positive finding that **all** of the requirements below have been met in order to entertain a hardship exception:

1. *Due to an extraordinary situation of the applicant or site condition, compliance with this chapter would result in an exceptional and/or undue hardship for the applicant;*

To comply with the requirements of N.J.A.C. 7:13-11.17, by not placing the engineered fill in the flood hazard area, would in essence mean that the LSRP approved RAWP could not be implemented for this site. As noted previously in the discussion regarding the "No Action Alternative," the site is currently a hazard to the public due to the contamination and the unstable conditions of the alum-YPS sludge lagoons and berms. The contamination present in the sludge lagoons and surrounding berms is in need of remediation to address ongoing discharges to groundwater and surface waters of the adjacent Rahway River.

In addition, the No Action Alternative would place an exceptional or undue hardship on the applicant because it would leave the site in an unusable condition. Section 47g (1) of SRRA states that the Department may disapprove the selection of a remedial action for a site on which the proposed remedial action will render the property unusable for future development or recreational use. A further exceptional or undue hardship will be placed on the applicant if the No Action Alternative is implemented because left un-remediated, the existing berms will fail at some point in time, releasing cyanide sludge into the Rahway River. As property owner, the applicant will likely be considered a responsible party and be liable for remediation costs associated with this release, a cost that will be much higher than the cost to properly remediate the site by constructing the engineered fill capping system (Alternative 7).

All of the other alternatives for site remediation were determined to be ineffective in remediating the site and/or were not feasible. Similar to the No Action Alternative, attempting to remediate this site using one of those alternatives will place an exceptional or undue hardship on the applicant because they will eventually fail, requiring additional remediation efforts, potentially causing a large scale release and cleanup liability. Most of the other alternatives will also not permit future site use.

2. *The proposed activities will not adversely affect the use of contiguous or nearby property;*

Approval of the hardship exception would not adversely affect the use of contiguous or nearby properties in terms of impacting the ability of those properties to be developed from a land use perspective. Therefore, this requirement has been met.

3. *The proposed activities will not pose a threat to the environment, or to public health, safety and welfare; and*

The proposed remediation of the site, as approved in the RAWP by the LSRP, is being implemented by Rahway Arch to address the current threat the site itself currently poses to the environment, public health and safety based on the unstable conditions within the alum-YPS sludge lagoons and the ongoing discharge of contaminants from the site to the underlying groundwater and surface waters of the Rahway River. The threat to the environment and public health and safety would be to not perform the site remediation.

As is described in detail in the RAWP and summarized in this document, the engineered fill used for the cap will not pose a hazard to human health or the environment. The engineered fill will meet Residential Standards for all parameters except for the six PAH compounds that presently exist on the site above Residential Standards. The PAH concentrations in the engineered fill will be less than half of the existing concentrations, before even taking into account the treatment of the engineered fill product through the solidification/stabilization process. Solidification/stabilization is considered by U.S. EPA a Best Demonstrated Available Technology (BDAT) for treatment of soils. Additional justification regarding the PAH concentrations, including the protectiveness of the plan, is documented in the August 16, 2013 RAW Addendum. The LSRP has determined that this engineered fill capping system is fully protective and is the only viable option to protect human health and the environment at this site.

In addition to the quality of the engineered fill, the capping system has been designed to meet all of the remediation requirements for this site. Stormwater will be collected and managed in a stormwater management system and discharged to control erosion and prevent flooding. Stormwater will not be allowed to percolate into the existing contaminated alum-YPS sludge and undocumented fill soils on the site where it would negatively impact both groundwater and the Rahway River. The berms will be stabilized to prevent failure and release of the alum-YPS sludge. The site will be stabilized, eliminating safety concerns.

Remediation of this site will have no impact on flooding in the area. It is important to note that the site has already been filled with 2 million tons of contaminated alum-YPS sludge and undocumented fill. Any flooding on the site has the potential to release this contamination. The site is located in a tidal flood zone of the Rahway River. Any flooding that occurs in the area surrounding this site is tidal flooding caused by the Atlantic Ocean, and is not fluvial flooding caused by upstream runoff. Fill placed in the tidal flood fringes does not impact flood storage or displacement because the Atlantic Ocean, not rainfall or stormwater, impacts flood levels.

The resulting remediated site will consist of 55 to 65 acres of remediated habitat, 20 to 30 acres of developable property and 40 acres of undisturbed wetlands.

4. The hardship was not created by any action or inaction of the applicant or its agents.

The current site conditions were not created by Rahway Arch, the third party developer, but were caused by the responsible party, Cytec and its predecessors (American Cyanamid), by creating the

YPS-sludge lagoons in the first place, and by not maintaining the proper institutional and engineering controls on the site as required by the Site Remediation Program and the No Further Action issued for the site. The NFA for the site required the responsible party to maintain the required engineering controls on the site and certify that the controls were functioning properly. Rahway Arch's purchase of the property for intended remediation is neither "action" nor "inaction" by the applicant that resulted in the current contaminants of the property.

Conclusion

Based on further evaluation of the hardship exception requests and all additional supporting documentation and information, the Department has determined the following:

- (1) No hardship exception from *N.J.A.C. 7:13-11.16* is required because unsecured material will not be stored in a regulated area,
- (2) No hardship exception from *N.J.A.C. 7:13-11.18* is required because the material to be processed and placed is categorically approved for beneficial use pursuant to *N.J.A.C. 7:26-1.7(g)*, and so is not considered solid waste,
- (3) No hardship exception from *N.J.A.C. 7:13-11.17* is required for the processing and storage of material at the proposed temporary Class B recycling facility as that facility will be located at an elevation above the ABFE, and
- (4) A hardship exception from the requirements of *N.J.A.C. 7:13-11.17* is granted for placement of material to create the proposed temporary Class B recycling facility and for the implementation of the LSRP-approved RAWP dated July 16, 2013, as amended on August 15, 2013, and as clarified in the applicant's August 23, 2013 letter.